Amanda B. "Mandy" Tornabene
Vice President - Environmental Services
Dominion Energy Services, Inc.

5000 Dominion Boulevard, Glen Allen, VA 23060
Dominion Energy.com

Dominion Energy

May 30, 2019

By Certified Mail, Return Receipt Requested

Mr. Jerome Blackman
The Natural Gas STAR Program
U.S. EPA (6207J)
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Re: Dominion Energy Utah, Wyoming, and Idaho
Natural Gas STAR Program
Implementation Plan for Distribution Companies

Dear Mr. Blackman:

Please find enclosed the Implementation Plan for Natural Gas STAR Program for Dominion Energy Utah, Wyoming, and Idaho. We look forward to working with you as we continue to implement practices to minimize methane releases from our natural gas distribution system.

If you have any questions regarding this submittal please contact Abby Credicott via phone at (804) 273-3892 or via e-mail at abby.m.credicott@dominionenergy.com.

Sincerely,

Amanda Tornabene

Amanda B. "Mandy" Tornabene

Enclosures – Implementation Plan for Distribution Companies

cc: Abby Credicott, Dominion

OMB Control No. 2060-0328
Expires 4/30/2022

Implementation Plan

NaturalGas
EPA POLLUTION PREVENTER

Distribution Sector

Company Information

Company Name:	Dominion Energy Utah, Wyoming, and Idaho
Gas Star Contact:	Abby Credicott
Position:	Supervisor - Environmental Regulations
Address:	Dominion Energy Environment & Sustainability
	5000 Dominion Blvd
City, State, Zip Code:	Glen Allen, Virginia 23060
Telephone:	804-273-3892
Fax:	804-273-2714
Email:	abby.m.credicott@dominionenergy.com

Implementation Plan Elements

ELEMENT 1 Best Management Practices (BMPs)

The following BMPs have been identified as significant opportunities to cost effectively reduce methane emissions from the distribution sector. They were selected based on their applicability to the industry, economic feasibility, and cost-effectiveness. There are two core BMPs for the distribution sector:

BMP 1 Directed inspection and maintenance at gate stations and surface facilities
BMP 2 Identify and rehabilitate leaky distribution pipe

For detailed information on these BMPs, please refer to the *Lessons Learned* publications on the Natural Gas STAR website: *https://www.epa.gov/natural-gas-star-program/recommended-technologies-reduce-methane-emissions.*

ELEMENT 2 Additional Activities

Current partners have reported many processes and technologies that are considered additional Best Management Practices by the program. New partners are encouraged to evaluate and report current and new practices or technologies that cost effectively reduce methane emissions.

ELEMENT 3 Inventory Past Reductions

Partners are encouraged to report past methane emission reductions back to 1990. Accounting for these historical reductions will create a permanent record of your company's methane emission reduction efforts. In addition, reviewing past activities will help guide companies' participation in Natural Gas STAR by creating a base of understanding of current activities to facilitate planning of future activities.

The Implementation Plan is designed to be a dynamic tool for Natural Gas STAR Partners to plan their program activities. As company priorities and plans shift over time, the Implementation Plan may be revised or updated by submitting a new form to the program. The Partner should only share non-Confidential Business Information (CBI) to fulfill Gas STAR Program requirements.

OMB Control No. 2060-0328
Expires 4/30/2022

ELEMENT 1
Best Management Practices

BMP 1
Directed Inspection and Maintenance (DI&M) at Gate Stations and Surface Facilities

A DI&M program is a system for performing routine leak detection and repair where leak measurement data from previous inspections are used to guide subsequent inspections and direct maintenance to those leaks that are cost effective to repair.

Estimated Reduction Potential
1,190 Mcf per station

Will you be implementing this BMP? ☒ Yes ☐ No

If no, why?

- ☐ Not cost effective
- ☐ May consider at a later date
- ☐ Other _____ please describe:

If yes, at what scale will you be implementing this BMP?

- ☐ Company Wide
- ☐ Pilot Project
- ☒ Other Statistical Sample - 20% Per Year

Please describe:

A statistical sample of 20% of transmission to distribution stations will be inspected and surveyed each year. The surveys are part of the EPA Mandatory Greenhouse Gas Reporting Program for distribution companies. DEUWI will leverage these annual inspections by following up with a leak maintenance and repair program, which is not a regulatory requirement.

Activity Summary

Number of gate stations and surface facilities? 96

Number of gate stations and surface facilities at which DI&M will take place? 96 (19 annually)

Inspection Schedule

Facilities will be inspected: ☐ quarterly ☒ annually ☐ biannually ☐ other _____

Please list the number of gate stations and surface facilities that will implement BMP 1 in upcoming years.

Year	2019	Number of gate stations and surface facilities	19
Year	2020	Number of gate stations and surface facilities	19
Year	2021	Number of gate stations and surface facilities	19
Year	2022	Number of gate stations and surface facilities	19

Additional Information on Anticipated Plans and Projects

If additional space is needed, please continue on the back.

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BMP 2
Identify and Rehabilitate Leaky Distribution Pipe

To reduce methane emissions, companies can use data from leak surveys and patrols, leak repair histories, corrosion monitoring records and other sources to identify and repair or replace the leakiest pipeline segments.

Estimated Reduction Potential

29 Mcf/mile/year - Average Mains
0.3 Mcf/service/year - Average Services

Will you be implementing this BMP? ☐ Yes ■ No

If no, why?

- ☐ Not cost effective
- ☐ May consider at a later date
- ■ Other see comments please describe:

No cast iron in system. Currently no known unprotected steel mains or services in the system. Company does track and include leaks and repair histories into the DIMP model and local SME's. Then identifies mains and services to be replaced utilizing this information. Currently do not believe this qualifies under the "BMP Commitment Option Technical Document" dated 1 October 2018.

If yes, at what scale will you be implementing this BMP?

- ☐ Company Wide
- ☐ Pilot Project
- ☐ Other _____

Please describe:

Activity Summary

Total distribution pipeline mileage? _____

Total distribution pipeline mileage selected for this BMP? _____

Replacement Schedule

Total distribution pipeline mileage to be rehabilitated by the end of:

Year 1: _____ Year 2: _____ Year 3: _____ Year 4: _____

Additional Information on Anticipated Plans and Projects

If additional space is needed, please continue on the back.

OMB Control No. 2060-0328
Expires 4/30/2022

ELEMENT 2
Additional Activities

Additional Activities
Your company may take advantage of additional technologies or practices to reduce methane emissions. The following is a list of some of the additional activities that have been reported by other Natural Gas STAR partners, which may be applicable to your operations (for more information on these activities, please view: *https://www.epa.gov/natural-gas-star-program/recommended-technologies-reduce-methane-emissions*):
■ Reduce/downgrade system pressure ■ Inject blowdown gas into low pressure system ■ DI&M: survey and repair leaks ■ Use hot taps for in-service pipeline connections

Additional activities you will be implementing	Please describe
Activity Reduce/Downgrade System Pressure At what scale will this activity be implemented? ■ Company Wide ☐ Pilot Project ☐ Other _____	Minimize gas lost from pipe blowdown during repair and/or replacement by reducing/downgrading the system pressure. Emission reduction calculated using pressure reduction and pipe length/diameter.
Activity Inject Blowdown Gas Into Low Pressure System At what scale will this activity be implemented? ■ Company Wide ☐ Pilot Project ☐ Other _____	Minimize gas lost from pipe blowdown during repair and/or replacement by injecting blowdown gas into a low pressure system. Emission reduction calculated using pressure reduction and pipe length/diameter.
Activity Use Hot Taps for In-Service Pipeline Connection At what scale will this activity be implemented? ■ Company Wide ☐ Pilot Project ☐ Other _____	Avoid pipeline blowdowns by installing pipeline connections using hot taps. Opportunities will be evaluated company-wide, but may not be feasible for all events. Calculate and report gas savings per hot tap event as the volume of gas that would have been released under normal operating pressure conditions.
Activity Install Excess Flow Valves (EFV) At what scale will this activity be implemented? ■ Company Wide ☐ Pilot Project ☐ Other _____	DEUWI already has a practice of installing EFVs. In order to implement this activity, DEUWI would need to modify the existing program that tracks line damages to specify whether or not the damaged line has EFV installed so the quantify of estimated savings can be reported.
Activity Inject Blowdown Gas Into Mains At what scale will this activity be implemented? ☐ Company Wide ■ Pilot Project ☐ Other _____	During pigging projects and other maintenance activities, DEUWI may be able to utilize newly acquired ZEVAC equipment to pump gas into mains reducing the amount of methane released. DEUWI would need to determine a tracking mechanism if this activity is expanded to other mains throughout the system where existing equipment is in place.

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ELEMENT 3
Inventory Past Reductions

An inventory of past reductions will help to create a permanent record of your past efforts.

As a first step, many new partners find it useful to inventory and document past methane emission reduction efforts. The inventory process helps companies quantify the success of their past activities and target future methane emission reduction efforts. Historical methane emission reductions identified as part of the inventory process can be reported to the Natural Gas STAR Program.

Will you inventory past activities to include in your annual report? ■ Yes ☐ No

If yes, please describe your company's plans for reviewing past methane emission reduction activities.

DEUWI will evaluate past reductions efforts. Past reduction efforts may include reductions from blowdown events (e.g. injecting blowdown gas into mains, purging lines with nitrogen/air), replacement of equipment (e.g. high-bleed pneumatic devices, orifice meters), and/or installation of equipment (e.g. excess flow valves, snow shelters).

The Natural Gas STAR Program thanks you for your time.

Please send completed forms to:

Regular Mail
Natural Gas STAR Program
U.S. EPA (6207A)
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Express/Overnight Mail
Natural Gas STAR Program
1201 Constitution Ave NW
Room Number 4353PP
Washington, DC 20004

Questions? Please call Jerome Blackman at (202) 343-9630, or send an email to GasSTAR@epa.gov.

Appendix A

Memorandum of Understanding

OMB Control No. 2060-0328
Expires 03/31/2019

NATURAL GAS STAR PROGRAM: MEMORANDUM OF UNDERSTANDING FOR DISTRIBUTION COMPANIES

This is a voluntary agreement between Dominion Energy (Utah, Wyoming, Idaho) *(company name) and the U.S. Environmental Protection Agency (EPA) for the purpose of reducing methane releases to the atmosphere by implementing cost-effective emission reduction technologies and practices.*

Authorized Company Representative: Jeffrey D. Hansen *(name)*

Signature: [signature] *Date:* 30 August 2018

Paul M. Gunning: Director, Climate Change Division, U.S. Environmental Protection Agency

Signature: [signature] *Date:* 9/12/18

Partner's Designated Natural Gas STAR Implementation Manager:

Name: Jeffrey D. Hansen
Title: Director, Region Operations
Address: PO Box 45360
City/State/Zip: Salt Lake City, Utah 84145-0360
Telephone/Fax: 801-324-3615 *E-mail:* jeff.hansen@dominionenergy.com

Partner's Media Liaison/Public Relations Manager:

Name: Darren T. Shepherd
Title: Manager, Media Relations
Address: PO Box 45360
City/State/Zip: Salt Lake City, Utah 84145-0360
Telephone/Fax: 801-324-5167 *E-mail:* darren.shepherd@dominionenergy.com

EPA's Responsibilities

1. *Assign a STAR Service Representative responsible for assisting the partner in implementing the Program.*
2. *Assist partners with Program implementation by: (1) analyzing emerging technologies and practices; (2) developing workshops and training courses; and (3) assisting in the removal of regulatory barriers to implementing Program BMPs, when appropriate.*
3. *Provide partners with public recognition for their commitment to the Program through advertisements, press releases, articles, and awards.*
4. *Recognize partners for methane emission reductions achieved before joining the Program, back to 1993.*
5. *EPA will only release information obtained from the partner company without prior authorization from that company if required to do so under the Freedom of Information Act, the Agency's regulations at 40 CFR part 2, subpart B, or other applicable law.*

Natural Gas STAR Partner's Responsibilities

1. *Appoint a company representative as the Natural Gas STAR Program Implementation Manager responsible for implementing this voluntary agreement.*
2. *Submit an implementation plan within six months of signing this agreement outlining expected activities and scope of implementation.*
3. *Implement, within three years, applicable BMPs and PROs at facilities in the United States as outlined in the implementation plan when cost-effective (as defined by the partner).*
4. *Submit annual reports describing the BMPs and PROs implemented, the cost of implementation, and the associated methane emissions reductions. Annual reports must be signed to certify the accuracy of data contained in the report.*
5. *Communicate participation to employees and cooperate with EPA efforts to publicize the Program.*

General Terms

1. *This agreement can be terminated by either party at any time, with no notice or penalties and no further obligation. EPA agrees not to publicize a partner's withdrawal from the Program.*
2. *The partner agrees that the activities it undertakes connected with this MOU are not intended to provide services to the federal government and that the partner will not seek compensation from a federal agency.*
3. *The partner agrees that it will not claim or imply that its participation in the Program constitutes EPA approval or endorsement of anything other than the commitment to the Program.*
4. *The partner must report the previous year's emission reduction activities annually. If a partner does not submit an annual report, the Natural Gas STAR Program will initiate a three step removal process. Details of this process can be provided upon request.*

***The Natural Gas STAR Program** is a flexible, non-regulatory partnership between EPA and the oil and natural gas industry aimed at demonstrating the cost-effectiveness and environmental benefits of methane emission reduction opportunities.*

*The recommended Natural Gas STAR **Best Management Practices (BMPs)** for Distribution Companies have been jointly identified by EPA and the industry as cost-effective options for reducing methane emissions.*

***Partner Reported Opportunities (PROs)** are additional methane emission reduction options reported by partner companies. PROs can reduce gas loss, increase profits, and improve operational efficiency.*

Best Management Practices

- *Directed inspection and maintenance at gate stations and surface facilities.*
- *Identify and rehabilitate leaky distribution pipe*

Partner Reported Opportunities

- *Identify and implement other cost-effective methane emission reduction management technologies and practices.*

Please mail, email or fax this form to:

EPA Natural Gas STAR Program
Mail Code 6207M
c/o Jerome Blackman
1200 Pennsylvania Ave. NW
Washington, DC 20460
Email: gasstar@epa.gov
Fax: (202) 343-2342

EPA Form No. 5900-98

Natural Gas STAR Implementation Plan

OMB Control No. 2060-0328
Expires 4/30/2022

Implementation Plan

Transmission Sector

Company Information

Company Name:	Dominion Energy Questar Pipeline
Gas Star Contact:	Abby Credicott
Position:	Supervisor - Environmental Regulations
Address:	Dominion Energy Environment & Sustainability
	5000 Dominion Blvd
City, State, Zip Code:	Glen Allen, Virginia 23060
Telephone:	804-273-3892
Fax:	804-273-2714
Email:	abby.m.credicott@dominionenergy.com

Implementation Plan Elements

ELEMENT 1 Best Management Practices (BMPs)

The following BMPs have been identified as significant opportunities to cost effectively reduce methane emissions from the transmission sector. They were selected based on their applicability to the industry, economic feasibility, and cost-effectiveness. There are three core BMPs for the transmission sector:

BMP 1 Directed inspection and maintenance at compressor stations
BMP 2 Use of turbines at compressor stations
BMP 3 Identify and replace high-bleed pneumatic devices

For detailed information on these BMPs, please refer to the Lessons Learned publications on the Natural Gas STAR website: *https://www.epa.gov/natural-gas-star-program/recommended-technologies-reduce-methane-emissions.*

ELEMENT 2 Additional Activities

Current partners have reported many processes and technologies that are considered additional Best Management Practices by the program. New partners are encouraged to evaluate and report current and new practices or technologies that cost effectively reduce methane emissions.

ELEMENT 3 Inventory Past Reductions

Partners are encouraged to report past methane emission reductions back to 1990. Accounting for these historical reductions will create a permanent record of your company's methane emission reduction efforts. In addition, reviewing past activities will help guide companies' participation in Natural Gas STAR by creating a base of understanding of current activities to facilitate planning of future activities.

The Implementation Plan is designed to be a dynamic tool for Natural Gas STAR Partners to plan their program activities. As company priorities and plans shift over time, the Implementation Plan may be revised or updated by submitting a new form to the program. The Partner should only share non-Confidential Business Information (CBI) to fulfill Gas STAR Program requirements.

OMB Control No. 2060-0328
Expires 4/30/2022

ELEMENT 1
Best Management Practices

BMP 1
Implement Directed Inspection and Maintenance at Compressor Stations

A DI&M program is a system for performing routine leak detection and repair where leak measurement data from previous inspections are used to guide subsequent inspections and direct maintenance to those leaks that are cost effective to repair.

Estimated Reduction Potential
8,540 Mcf per station

Will you be implementing this BMP? ■ Yes ☐ No

If no, why?

- ☐ Not cost effective
- ☐ May consider at a later date
- ☐ Other _____ please describe:

If yes, at what scale will you be implementing this BMP?

- ☒ Company Wide
- ☐ Pilot Project
- ☐ Other _____

Please describe:

Total number of compressor station at which DI&M will take place is 20. As of 2019, 10 are conducted annually as part of GHGRP leak surveys, and DEQP will commit to voluntarily survey 5 additional facilities every year. Inspection schedule below only tracks voluntarily surveyed facilities.

Activity Summary

Total number of compressor stations? 20

Total number of compressor stations at which DI&M will take place? 10 (voluntary)

Inspection Schedule

Stations will be inspected: ☐ quarterly ■ annually ☐ biannually ☐ other _____

Please list in detail the number of compressor stations that will implement BMP 1 in upcoming years.

Year 2019 Number of compressor stations 3

Year 2020 Number of compressor stations 5

Year 2021 Number of compressor stations 5

Year 2022 Number of compressor stations 5

Additional Information on Anticipated Plans and Projects

If additional space is needed, please continue on the back.

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Expires 4/30/2022

BMP 2
Use of Turbines at Compressor Stations

Reciprocating engines used to drive compressors throughout transmission systems release significant amounts of methane in their exhaust. Replacing these engines with turbines can reduce a large portion of these methane emissions.

Estimated Reduction Potential
0.234 Mcf/hp/hr per replacement

Will you be implementing this BMP? ☐ Yes ■ No

If no, why?

- [x] Not cost effective
- [ ] May consider at a later date
- [ ] Have already implemented
- [ ] Other _____ please describe:

If yes, at what scale will you be implementing this BMP?

- [ ] Company Wide
- [ ] Pilot Project
- [ ] Other _____

Please describe:

Activity Summary

Please fill out the table below to show the total number of engines selected for BMP 2.

	Reciprocating Engines in Operation	Reciprocating Engines to be Retired	Turbines to Replace Retired Reciprocating Engines	New Turbine Installations (i.e., not Replacing Retired Engines)
Number				
Horsepower				
Fuel use (e.g., MMcf/year)				

Installation Schedule

Total number of turbines installed by the end of:

Year 1: _____ Year 2: _____ Year 3: _____ Year 4: _____

Total number of reciprocating engines retired by the end of:

Year 1: _____ Year 2: _____ Year 3: _____ Year 4: _____

Additional Information on Anticipated Plans and Projects

If additional space is needed, please continue on the back.

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Expires 4/30/2022

BMP 3
Identify and Replace High-Bleed Pneumatic Devices

Pneumatic devices used in the transmission sector actuate isolation valves and regulate gas flow and pressure at compressor stations, pipelines, and storage facilities. In the distribution sector they are used on meter runs at gate stations for regulating flow and pressure. Replacing high-bleed pneumatic devices with low- or no-bleed devices reduces or eliminates emissions and improves safety.

Estimated Reduction Potential

124 Mcf/yr/device

Will you be implementing this BMP? ■ Yes ☐ No

If no, why?

- ☐ Not cost effective
- ☐ May consider at a later date
- ☐ Have already implemented
- ☐ Other _____ please describe:

If yes, at what scale will you be implementing this BMP?

- ☒ Company Wide
- ☐ Pilot Project
- ☐ Other _____

Please describe:

Currently identifying and inventorying all high-bleed devices. DEQP plans to upgrade all high-bleed devices. 71 currently identified as of 3/27/19.

Activity Summary

Number of high-bleed pneumatic devices in system? 71

Number of high-bleed pneumatic devices to be replaced? 71 (12 annually)

Replacement Schedule

Number of high-bleed pneumatic devices to be replaced by the end of:

Year 1: 2019 - 12 Year 2: 2020 - 12 Year 3: 2021 - 12 Year 4: 2022 - 12

Additional Information on Anticipated Plans and Projects

If additional space is needed, please continue on the back.

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Expires 4/30/2022

ELEMENT 2
Additional Activities

Additional Activities
Your company may take advantage of additional technologies or practices to reduce methane emissions. The following is a list of some of the additional activities that have been reported by other Natural Gas STAR partners, which may be applicable to your operations (for more information on these activities, please view: *https://www.epa.gov/natural-gas-star-program/recommended-technologies-reduce-methane-emissions*):
☐ Use pipeline pump-down techniques to lower gas line pressure before maintenance ☒ Use composite wrap repair ☐ Install electric compressors ☐ Use hot taps for in-service pipeline connections ☐ Replace wet compressor seals with dry seals

Additional activities you will be implementing	Please describe
Activity Replace Orifice with Ultrasonic Meters At what scale will this activity be implemented? ☐ Company Wide ☒ Pilot Project ☐ Other _____	Target aging and unreliable meters and schedule them for replacement with ultrasonic meters when appropriate. Ultrasonic meters provide more timely and accurate gas accounting; they reduce methane emissions and Lost and Unaccounted for gas (LAUF) and serve as leading indicators of potential maintenance issues throughout the system through diagnostic data.
Activity Use Composite Wrap Repair At what scale will this activity be implemented? ☒ Company Wide ☐ Pilot Project ☐ Other _____	Utilize composite wrap repairs in lieu of pipeline cut-outs where feasible for transmission pipeline repairs, as allowed under PHMSA pipeline safety regulations and company integrity management procedures.
Activity _____ At what scale will this activity be implemented? ☐ Company Wide ☐ Pilot Project ☐ Other _____	
Activity _____ At what scale will this activity be implemented? ☐ Company Wide ☐ Pilot Project ☐ Other _____	
Activity _____ At what scale will this activity be implemented? ☐ Company Wide ☐ Pilot Project ☐ Other _____	

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ELEMENT 3
Inventory Past Reductions

An inventory of past reductions will help to create a permanent record of your past efforts.

As a first step, many new partners find it useful to inventory and document past methane emission reduction efforts. The inventory process helps companies quantify the success of their past activities and target future methane emission reduction efforts. Historical methane emission reductions identified as part of the inventory process can be reported to the Natural Gas STAR Program.

Will you inventory past activities to include in your annual report? ■ Yes ☐ No

If yes, please describe your company's plans for reviewing past methane emission reduction activities.

DEQP will evaluate past reductions from savings related to capital maintenance line work projects, the replacement of high-bleed pneumatic devices, and conversion of orifice meters to ultrasonic meters. DEQP will report these reductions in the first annual NgSTAR report.

The Natural Gas STAR Program thanks you for your time.

Please send completed forms to:

Regular Mail
Natural Gas STAR Program
U.S. EPA (6207A)
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Express/Overnight Mail
Natural Gas STAR Program
1201 Constitution Ave NW
Room Number 4353PP
Washington, DC 20004

Questions? Please call Jerome Blackman at (202) 343-9630, or send an email to GasSTAR@epa.gov.

NaturalGas
EPA POLLUTION PREVENTER